

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

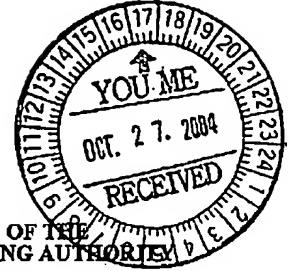
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PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)



Date of mailing  
(day/month/year) 20 OCTOBER 2004 (20.10.2004)

Applicant's or agent's file reference  
OPP041574KR

FOR FURTHER ACTION

See paragraph 2 below

International application No.

**PCT/KR2004/001568**

International filing date (day/month/year)

**28 JUNE 2004 (28.06.2004)**

Priority date (day/month/year)

27 JUNE 2003 (27.06.2003)

International Patent Classification (IPC) or both national classification and IPC

**IPC7 G11B 27/10**

Applicant

**KT Corporation et al**

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office  
920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
Republic of Korea

Authorized officer

KIM, Yang Woong



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/001568

**Box No. I Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing  
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format  
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/KR2004/001568

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1-18	YES
	Claims		NO
Inventive step (IS)	Claims	2-7, 9-12, 14-15, 17-18	YES
	Claims	1, 8, 13, 16	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

**2. Citations and explanations :**

Reference is made to the following documents:

D1: US 6,535,639 B1 (FUJFU XEROX CO., LTD.) 18 Mar. 2003

D2: US 6,331,859 B1 (SHARP LABORATORIES OF AMERICA, INC.) 18 Dec. 2001

**1. Novelty and Inventive Step**

The subject matter of claims 1-18 of the present invention is an apparatus and a method for automatic video summarization using a fuzzy OC-SVM (a one-class support vector machine).

D1 discloses a method of determining the importance of segments in a video by segmenting the video into component shots and then merging by iteration the component shots based on similarity or other factors.

D2 discloses a method of creating a summary of a plurality of video frames using a vector rank filter.

The subject matter of the present invention (claims 1, 8, 13 and 16) and that of the prior art documents D1 and D2 are considered to be similar in that both relate to a method of automated summarization of video data. The differences between said claims and said documents lie in the method of measuring the importance of shots or segments and the algorithm to generate a video summary. However, said differences do not involve any technical difficulties. Accordingly, it would be obvious to a person skilled in the art to derive the invention of claims 1, 8, 13 and 16 from the prior art.

Therefore, the subject matter of claims 1, 8, 13 and 16 is considered to be novel but to lack an inventive step (PCT Article 33(2)-(3)).

**2. Industrial Applicability**

Claims 1-18 of the present invention meet the criteria set out in PCT Article 33(4) because they are directed to an apparatus and a method for automatic video summarization. Therefore, the subject matter of claims 1-18 is considered to be industrially applicable.